

R3

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 07-242483

(43)Date of publication of application : 19.09.1995

(51)Int.Cl.

C30B 1/02

C22C 27/04

C22F 1/18

C30B 29/02

(21)Application number : 06-054811

(71)Applicant : NATL RES INST FOR METALS

(22)Date of filing : 02.03.1994

(72)Inventor : FUJII TADAYUKI
HONDA KINICHI

(54) PRECIPITATION HARDENING MOLYBDENUM SINGLE CRYSTAL AND PRODUCTION THEREOF

(57)Abstract:

PURPOSE: To easily obtain a heat-resistant material having excellent high temp. strength without causing recrystallization embrittlement by forming a molybdenum polycrystal containing titanium carbide and then annealing.

CONSTITUTION: After a molybdenum polycrystal containing 0.01-0.5wt.% titanium carbide is formed into a body, the body is annealed to obtain the objective single crystal. This single crystal is a precipitation hardening molybdenum single crystal of molybdenum containing 0.01-0.5wt.% titanium carbide. Since the precipitation hardening molybdenum single crystal does not cause changes in the metal structure or intergranular slip at high temp., it does not cause recrystallization embrittlement. As a result, the obtd. crystal has excellent high temp. strength, causes no mechanical breaking, can be widely used as a heat-resistant material to be used, for example, a furnace material of a nuclear reactor or nuclear fusion reactor, a base plate for burning of ceramics, a base plate for reduction of uranium, and a chamber of a heater.

LEGAL STATUS

[Date of request for examination]

02.03.1994

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

2535774

[Date of registration]

08.07.1996

[Number of appeal against examiner's decision of rejection]